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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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May 4, 1999

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
445 Twelfth Street, S. W. – Room TWB-204
Washington, D. C. 20554

Re: *Ex parte*, CC Docket No. 98-56, Performance Measurements and Reporting Requirements for Operations Support systems, Interconnection, and Operator Services and Directory Assistance

Dear Ms. Roman Salas:

On Monday, May 3, 1999, Michael Kalb, Colin Mallows, and the undersigned met with Florence Setzer, Daniel Shiman, Andre Rausch, and Alex Belinfante of the Commission's Common Carrier Bureau staff. The purpose of the meeting was to discuss the Performance Assurance Plan currently being debated within the industry as part of the New York Public Service Commission's analysis of the Bell Atlantic-New York 271 pre-filing statement. In addition, AT&T discussed the merits of using various statistical tools to assure that incumbent LEC OSS performance results are reliable. AT&T contrasted the relative power to detect discriminatory performance results of the LCUG-proposed modified z statistic with several standard statistical tests (t-test using different variances, t-test using pooled variances and the Mann-Whitney test), concluding the z statistic was superior.

Two copies of this Notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206 of the Commission's rules.

Sincerely,

ATTACHMENT

cc: J. Jennings   A. Belinfante
    D. Shiman   F. Setzer
    A. Rausch

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List ABCDE

Discussion of BA-NY Performance Assurance Plan (PAP)

Quantitative Aspects from a CLEC
Perspective

03 MAY 99

Protecting Against Backsliding
Guiding Principles

- Basic principles to guide design of "self-enforcing" consequences
  - Consequences have meaningful impact (not just a cost of doing business)
  - Consequences escalate with repeated or exceptionally poor performance
  - Additional consequences may be applicable for industry-wide poor performance
  - Minimized "entanglement" cost -- simple but effective
  - Minimal opportunities to "game" the system
  - Few automatic exclusions from consequences --can't be circumvented
  - Applied without undue delay and additional litigation

Background
Time-Line

- Original Proposal APR 98
  - Loosely based on individual interconnection agreements
  - First attempt at unifying BA remedy process
- Proposal of 26 MAR 99
  - Presented in summary form by BA in Albany and via video-conference.
  - Many modifications to original proposal
  - Little input from CLECs accepted
- Current Proposal of 12 APR 99
  - Presented by NY Staff in "educational" session in Albany only.
  - Preceded by spreadsheet demo
  - Heavily and rigidly based on pre-filing statement
- Next Proposal 04 MAY 99
  - More changes
  - More complexity

Original Proposal APR 98

- Measures were grouped into three categories:
  - Resale
  - Unbundled Network Elements
  - Interconnection
- Aggregated score for each category
- A miss in the aggregate score triggers adjustments for all CLECs with service in the category
- 12 Critical Measurements
- Evaluate industry performance and credit CLECs based on their individual experience
- Waiver of charges as opposed to liquidated damages or penalties

Proposal of 26 MAR 99

For Each Mode of Entry:

Modifications purported to accommodate changes in C2C Guidelines and marketplace experience.

- New Measures and Weights
- Performance Scoring – Statistical Tools
- Dollar Allocations (Caps)
- Added a Fourth Category – Collocation

Explained in terms of what is in the plan and how it works, but not why it is done

Tables of Measures and Weights

- Areas of Performance   X   Modes of Entry
  - Pre-ordering   - Resale
  - Ordering   - UNEs
  - Provisioning   - Interconnection
  - Maintenance & Repair   - Collocation
  - Billing
  - Network Performance

∅ = parity

PO	Pre-Ordering	Resale	UNE	Trunks Colloc.	-1 Standard	-2 Standard
1-01	Customer Service Record	15	15		> BA +4 seconds	>BA + 6 seconds
1-02	Due Date Availability	5	5		> BA +4 seconds	>BA + 6 seconds
1-03	Address Validation	5	5		> BA +4 seconds	>BA + 6 seconds
1-04	Product and Service Availability	5	5		> BA +4 seconds	>BA + 6 seconds
1-05	Telephone Number Availability and Reservation	5	5		> BA +4 seconds	>BA + 6 seconds
1-06	Facility Availibility (Loop Qualification)	5	5		> BA +4 seconds	>BA + 6 seconds
2-02	OSS Interface Availability - Prime	20	20		> BA +4 seconds	>BA + 6 seconds
3-02	% Answered within 30 Seconds - Ordering	10	10		<80%	<75%
3-04	% Answered within 30 Seconds - Repair	10	10		<80%	<75%
OR	**Ordering**					
1-02	% On Time LSRC - Flow Through - POTS - 2hrs	20	20		<95%	<90%
1-04	% OT LSRC<10 Lines (Elec.-No Flow Through)-POTS	5	5		<95%	<90%

Proposal of 19 APR 99
(Current)

- BA plan with "staff input" →YPSC
- New Measures and Weights ^More
- PFS guides PAP with non-negotiable features:
  - $150 million total industry yearly cap
  - (0,-1,-2) scoring scheme
  - Small sample size calculation (permutation analysis) → Shareware program
- Total Remedy Package
  - C2C documents (including interconnection agreements)
  - PAP (Perf. Assessment Plan)
  - Antitrust action (CLEC/GOVT)
  - Annual revisitation
  - Major revisitation in 3 years
- Clustering issue raised (cable cut affects many measurements) underlying data source is the same correlations between sub-categories

Description and Initial Analysis
Metrics and Standards

Metric Grouping	Number	Critical	Parity	Bnchmrk	Undfnd	Resale	UNEs	Trunks	Colloc
Pre-Ordering	9	7	0	9	0	9	8	0	0
Ordering	20	1	0	20	0	13	17	3	0
Provisioning	30	15	28	2	0	13	21	6	0
Maintenance & Repair	19	9	15	0	4	15	15	4	0
Billing	1	0	0	1	0	1	1	0	0
Network Performance	8	6	0	6	2	0	0	2	6
TOTALS	87	38	43	38	6	51	62	15	6
						134			
PERCENTS	Critical	43.7%	Parity	49.4%		38.1%	46.3%	11.2%	4.5%

Weights and Measures
Initial Thoughts on Improvements Needed

- Eliminate weightings
    - To remove distortions of performance results
    - Remove artifacts of normalization
- Poll CLECs for measures
- Agree on a procedure for adding/subtracting measures - both critical and not
- Add geographical and other LCUG disaggregations
- Apply remedies at disaggregated measure level
    - Simpler
    - Avoids possible gaming
- Continuous rather than discrete scoring
    - avoids need for aggregation to promote mathematical stability
    - puts light on problem measures

Critical Measures Component

Initial Thoughts on Improvements Needed

- Use CLEC selection of "critical" performance measures
  - Would include measurements that are essential to effective competition
  - Produce appropriate distribution across areas of performance
- Make this the only prioritization of performance measures
- Need more than simply liquidated damages without any penalty provisions for damage to the industry
- Disaggregate critical measures
- Simplify this arcane and complex scheme for mapping into payment

Performance Standards and Scoring

- For performance measures with "parity" standards:
  - Determine modified Z Score
    - Measured variable
    - Counted variables
  - Derived from LCUG methodology
  - Derived from C2C Guidelines
  - Utilize permutation analysis for small sample size
  - A Z- or t -score of below -1.645 provides a 95% confidence level that the variables are different, or that they come from different processes
- For performance measures with absolute standards
  - Range of Performance determines score
  - Utilize table for scoring small sample size

Performance Scores for Measures with Absolute Standards

Measure	0	-1	-2
OSS Response Time	≤ 4 Second Diff.	4.1 to 6 seconds	> 6 seconds
OSS Availability	≥ 99.5%	98 to 99.4%	< 98%
95% standards	≤ 95%	90 to 94.9%	< 90%
Speed of Answer	≥ 80%	75 to 79.9%	< 75%
Collocation Delay Days	≤ 6 Days	7 - 15 Days	> 15 Days
Trunk Blockage (MOE)	≤ 2% of Final Interconnection Trunks exceeding blocking standard for 2 months in a row	> 2% of Final Interconnection Trunks exceeding blocking standard for 2 months in a row	> 2% of Final Interconnection Trunks exceeding blocking standard for 3 months in a row
Trunk Blockage – CM (CLEC specific)	Final Interconnection Trunks meeting or exceeding blocking standard for one month	Any individual Final Interconnection Trunk group exceeding blocking standard for 2 months in a row	Any individual Final Interconnection Trunk group exceeding blocking standard for 3 months in a row

Performance Scores for Measures with Absolute Standards

Initial Thoughts on Improvements Needed

- Apply consequences exactly when performance threshold is reached
- Less reliance on benchmarks and more on parity measures
  - Benchmarks make up about half of the measures
  - Parity is not tested by "benchmarks"
  - PAP is stated to perform a yes/no parity determination
- Absolute standards are useful when parity performance is poor
- Need a plan and treatment for points that fall below standard

Mode of Entry Performance Scoring

For each measure with a "parity" standard:

- 1. Calculate Z score or perform permutation (for small samples)
- 2. Convert Z score to performance score

Z-score	Performance Score	Parity
Z ≤ -1.645	-2	Not Achieved
Z < -0.8225 and > -1.645	-1	In Question
Z > -0.8225	0	Achieved

For each measure with an absolute standard:

- 1. Determine Performance Score using performance range tables (for small sample sizes, use small sample size table.
- 2. None

After that additional steps 3-7 apply (next page)

Mode of Entry Performance Scoring
(Continued)

3. After 2 additional months performance (allowing for adjustments for –1 scores.) Weight performance score for each metric in each MOE

4. Accumulate total performance score for each MOE. If performance score is ≤ -0.2 go to step 5. Otherwise, no credits due.

5. Create Performance Credit table. Divide total monthly dollars by lines (units) in service using actual volume for maximum rate. Allocate across 20 performance scores from –0.2 to –X (with 10% of rate at –0.2).

6. Determine rate from table using score

7. Calculate credit using rate multiplied by lines in service for each CLEC within that MOE.

Mode of Entry Performance Scoring
Initial Thoughts on Improvements Needed

- Streamline and simplify plan with CLEC input
  - Use Z-score directly to eliminate the terminating discrete scale methodology which rewards low performance and potentially chaotic results
  - Use documented, sound statistical methods
    - Remove indulgent 2 month allowance for score of -1
    - Replace complex multiple small sample size tables with simple procedure or formulae
    - Justify, don't simply explain critical measure quantification method
- Subject BA-NY to more risk of consequences for discriminatory performance by using longer scale scale
- Show and justify calculation of dollars at risk for all measures and categories
- Use simple payment rather than capped price reductions
- Apply a penalty structure too

BA-NY Proposed Consequences
Pros & Cons

- **Pros**
  - Proposal uses modified z-score
  - Applies permutation analysis for small sample size
  - Itemized performance scoring methodology
- **Cons**
  - Proposal focused almost entirely on limiting BANY exposure
  - Based on aggregates of aggregates
  - The sub-caps are too low.
  - Limited number of measures wipes out much of the value of the C2C proceeding.
  - The market should determine importance, not arbitrary weights
  - Limitations on BANY's liability should be tied to the amount assigned for each failure
  - Proposal apparently ignores Type 2 errors (requires further study)
  - Too many ways for ILEC to avoid liability for poor performance.
  - Too much emphasis on non-parity based benchmark performance levels.
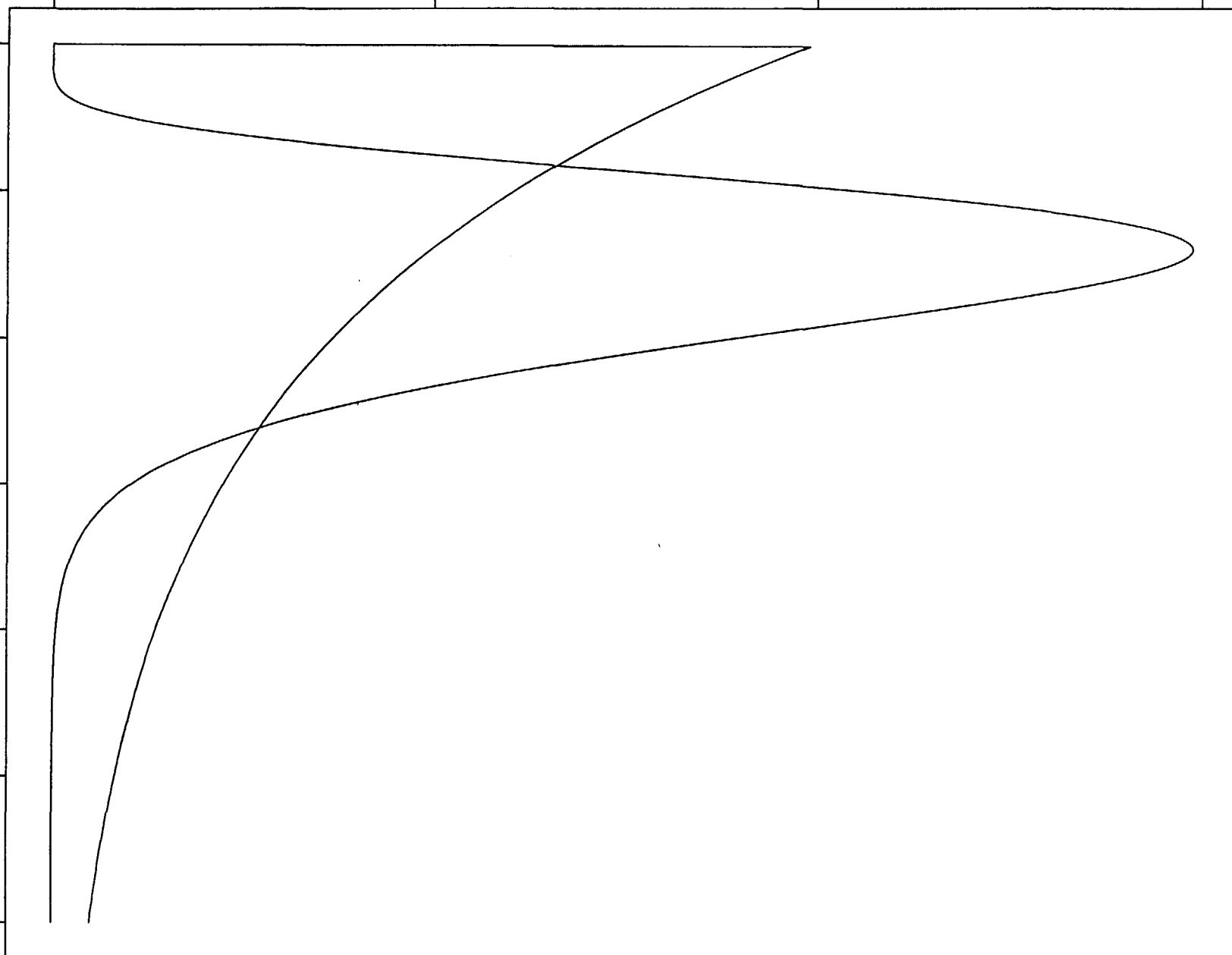 - No method to deal with BANY's performance for the "allowed failures."

ILEC: 250 observations drawn from Gamma(8)
Mean = 8, Variance = 8
CLEC1: 50 observations drawn from Gamma(8)

CLEC2: 50 observations drawn from 10*Gamma(1)
Mean = 10, Variance = 100.

Compare ILEC with CLEC1 and with CLEC2, using four tests:

Z1: t-test using different variances
Z2: t-test using pooled variances
Z3: LCUG test using ILEC variance only
MW: Mann-Whitney test

1000 simulations.   Number of times Z > 1.645

	CLEC1-ILEC	CLEC2-ILEC
Z1	39	382
Z2	50	696
Z3	50	816
MW	49	37